Release notes for ENDF/B Development n-012_Mg_025 evaluation

April 26, 2017

- **checkr** Warnings:

    1. A previous error halted parsing of the current section
       MAT=1228, MF= 1, MT=451 (1): Parsing stopped

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER     158 TO     272
    ```

- **checkr** Errors:

    1. A variable is outside the allowed ENDF range
       MAT=1228, MF= 1, MT=451 (0): Variable range

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 1, MT=451
        MOD =     2 OUT OF RANGE    0 -    0          RECORD NUMBER     158
    ```

    2. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 2, MT=151 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 2, MT=151
        SECTION  2/151 NOT IN DIRECTORY              RECORD NUMBER     274
    ```

    3. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 3, MT= 1 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 3, MT=  1
        SECTION  3/  1 NOT IN DIRECTORY              RECORD NUMBER     292
    ```

    4. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 3, MT= 2 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 3, MT=  2
        SECTION  3/  2 NOT IN DIRECTORY              RECORD NUMBER     316
    ```

    5. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 3, MT= 4 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 3, MT=  4
        SECTION  3/  4 NOT IN DIRECTORY              RECORD NUMBER     340
    ```

    6. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 3, MT= 16 (0): Directory (b)

    ```
    ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 16
        SECTION  3/ 16 NOT IN DIRECTORY              RECORD NUMBER     360
    ```

    7. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=1228, MF= 3, MT= 22 (0): Directory (b)

1

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 22
          SECTION  3/ 22 NOT IN DIRECTORY                 RECORD NUMBER    369
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1228, MF= 3, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 28
          SECTION  3/ 28 NOT IN DIRECTORY                 RECORD NUMBER    377
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=1228, MF= 3, MT= 51 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 51
          SECTION  3/ 51 NOT IN DIRECTORY                 RECORD NUMBER    384
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 52 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 52
          SECTION  3/ 52 NOT IN DIRECTORY                 RECORD NUMBER    404
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 53 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 53
          SECTION  3/ 53 NOT IN DIRECTORY                 RECORD NUMBER    423
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 54 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 54
          SECTION  3/ 54 NOT IN DIRECTORY                 RECORD NUMBER    441
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 55 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 55
          SECTION  3/ 55 NOT IN DIRECTORY                 RECORD NUMBER    458
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 56 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 56
          SECTION  3/ 56 NOT IN DIRECTORY                 RECORD NUMBER    475
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 57
    SECTION  3/ 57 NOT IN DIRECTORY                RECORD NUMBER    491
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 58
    SECTION  3/ 58 NOT IN DIRECTORY                RECORD NUMBER    507
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 59
    SECTION  3/ 59 NOT IN DIRECTORY                RECORD NUMBER    522
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 60
    SECTION  3/ 60 NOT IN DIRECTORY                RECORD NUMBER    537
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 61 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 61
    SECTION  3/ 61 NOT IN DIRECTORY                RECORD NUMBER    551
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 62 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 62
    SECTION  3/ 62 NOT IN DIRECTORY                RECORD NUMBER    565
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 63 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 63
    SECTION  3/ 63 NOT IN DIRECTORY                RECORD NUMBER    578
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 64 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 64
    SECTION  3/ 64 NOT IN DIRECTORY                RECORD NUMBER    591
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 65 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 65
           SECTION  3/ 65 NOT IN DIRECTORY                RECORD NUMBER    603
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 66 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 66
           SECTION  3/ 66 NOT IN DIRECTORY                RECORD NUMBER    615
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 67 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 67
           SECTION  3/ 67 NOT IN DIRECTORY                RECORD NUMBER    627
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT= 91
           SECTION  3/ 91 NOT IN DIRECTORY                RECORD NUMBER    638
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT=102 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT=102
           SECTION  3/102 NOT IN DIRECTORY                RECORD NUMBER    647
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT=103 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT=103
           SECTION  3/103 NOT IN DIRECTORY                RECORD NUMBER    670
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 3, MT=107 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 3, MT=107
           SECTION  3/107 NOT IN DIRECTORY                RECORD NUMBER    680
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 2 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF= 4, MT=  2
           SECTION  4/  2 NOT IN DIRECTORY                RECORD NUMBER    692
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 16 (0): Directory (b)

4

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 16
        SECTION  4/ 16 NOT IN DIRECTORY                    RECORD NUMBER     883
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 22 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 22
        SECTION  4/ 22 NOT IN DIRECTORY                    RECORD NUMBER     894
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 28 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 28
        SECTION  4/ 28 NOT IN DIRECTORY                    RECORD NUMBER     905
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 51 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 51
        SECTION  4/ 51 NOT IN DIRECTORY                    RECORD NUMBER     916
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 52 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 52
        SECTION  4/ 52 NOT IN DIRECTORY                    RECORD NUMBER     941
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 53 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 53
        SECTION  4/ 53 NOT IN DIRECTORY                    RECORD NUMBER     964
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 54 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 54
        SECTION  4/ 54 NOT IN DIRECTORY                    RECORD NUMBER     987
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 55 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 55
        SECTION  4/ 55 NOT IN DIRECTORY                    RECORD NUMBER    1010
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 56 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 56
        SECTION  4/ 56 NOT IN DIRECTORY                    RECORD NUMBER    1033
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 57 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 57
        SECTION  4/ 57 NOT IN DIRECTORY                    RECORD NUMBER    1056
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 58 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 58
        SECTION  4/ 58 NOT IN DIRECTORY                    RECORD NUMBER    1079
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 59 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 59
        SECTION  4/ 59 NOT IN DIRECTORY                    RECORD NUMBER    1100
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 60 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 60
        SECTION  4/ 60 NOT IN DIRECTORY                    RECORD NUMBER    1121
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 61 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 61
        SECTION  4/ 61 NOT IN DIRECTORY                    RECORD NUMBER    1141
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 62 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 62
        SECTION  4/ 62 NOT IN DIRECTORY                    RECORD NUMBER    1161
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 63 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 63
        SECTION  4/ 63 NOT IN DIRECTORY                    RECORD NUMBER    1181
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 64 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 64
        SECTION  4/ 64 NOT IN DIRECTORY                RECORD NUMBER    1201
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 65 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 65
        SECTION  4/ 65 NOT IN DIRECTORY                RECORD NUMBER    1221
```

49. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 66 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 66
        SECTION  4/ 66 NOT IN DIRECTORY                RECORD NUMBER    1241
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 67 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 67
        SECTION  4/ 67 NOT IN DIRECTORY                RECORD NUMBER    1261
```

51. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 4, MT= 91 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 4, MT= 91
        SECTION  4/ 91 NOT IN DIRECTORY                RECORD NUMBER    1279
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 5, MT= 16 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 5, MT= 16
        SECTION  5/ 16 NOT IN DIRECTORY                RECORD NUMBER    1298
```

53. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 5, MT= 22 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 5, MT= 22
        SECTION  5/ 22 NOT IN DIRECTORY                RECORD NUMBER    1545
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 5, MT= 28 (0): Directory (b)

```
     ERROR(S) FOUND IN MAT=1228, MF= 5, MT= 28
        SECTION  5/ 28 NOT IN DIRECTORY                RECORD NUMBER    1711
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF= 5, MT= 91 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF= 5, MT= 91
           SECTION  5/ 91 NOT IN DIRECTORY                    RECORD NUMBER    1843
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=12, MT= 16 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 16
           SECTION 12/ 16 NOT IN DIRECTORY                    RECORD NUMBER    2069
```

57. Missing a gamma spectrum for continuum of gammas
    MAT=1228, MF=12, MT= 16 (1): No gamma spectrum

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 16
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=12, MT= 22 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 22
           SECTION 12/ 22 NOT IN DIRECTORY                    RECORD NUMBER    2078
```

59. Missing a gamma spectrum for continuum of gammas
    MAT=1228, MF=12, MT= 22 (1): No gamma spectrum

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 22
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=12, MT= 28 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 28
           SECTION 12/ 28 NOT IN DIRECTORY                    RECORD NUMBER    2086
```

61. Missing a gamma spectrum for continuum of gammas
    MAT=1228, MF=12, MT= 28 (1): No gamma spectrum

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 28
           CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=12, MT= 51 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 51
           SECTION 12/ 51 NOT IN DIRECTORY                    RECORD NUMBER    2093
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=12, MT= 52 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=12, MT= 52
           SECTION 12/ 52 NOT IN DIRECTORY                    RECORD NUMBER    2097
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 53 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 53
      SECTION 12/ 53 NOT IN DIRECTORY              RECORD NUMBER    2101
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 54 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 54
      SECTION 12/ 54 NOT IN DIRECTORY              RECORD NUMBER    2105
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 55 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 55
      SECTION 12/ 55 NOT IN DIRECTORY              RECORD NUMBER    2110
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 56 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 56
      SECTION 12/ 56 NOT IN DIRECTORY              RECORD NUMBER    2115
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 57 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 57
      SECTION 12/ 57 NOT IN DIRECTORY              RECORD NUMBER    2120
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 58 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 58
      SECTION 12/ 58 NOT IN DIRECTORY              RECORD NUMBER    2125
```

70. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 59 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 59
      SECTION 12/ 59 NOT IN DIRECTORY              RECORD NUMBER    2129
```

71. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 60 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 60
      SECTION 12/ 60 NOT IN DIRECTORY              RECORD NUMBER    2134
```

72. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 61 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 61
      SECTION 12/ 61 NOT IN DIRECTORY                RECORD NUMBER    2139
```

73. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 62 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 62
      SECTION 12/ 62 NOT IN DIRECTORY                RECORD NUMBER    2143
```

74. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 63 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 63
      SECTION 12/ 63 NOT IN DIRECTORY                RECORD NUMBER    2148
```

75. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 64 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 64
      SECTION 12/ 64 NOT IN DIRECTORY                RECORD NUMBER    2153
```

76. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 65 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 65
      SECTION 12/ 65 NOT IN DIRECTORY                RECORD NUMBER    2158
```

77. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 66 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 66
      SECTION 12/ 66 NOT IN DIRECTORY                RECORD NUMBER    2162
```

78. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 67 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 67
      SECTION 12/ 67 NOT IN DIRECTORY                RECORD NUMBER    2166
```

79. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT= 91 (0): Directory (b)

```
   ERROR(S) FOUND IN MAT=1228, MF=12, MT= 91
      SECTION 12/ 91 NOT IN DIRECTORY                RECORD NUMBER    2172
```

80. Missing a gamma spectrum for continuum of gammas
MAT=1228, MF=12, MT= 91 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT= 91
        CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

81. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=102
        SECTION 12/102 NOT IN DIRECTORY                RECORD NUMBER    2181
```

82. Missing a gamma spectrum for continuum of gammas
MAT=1228, MF=12, MT=102 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=102
        CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

83. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT=103 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=103
        SECTION 12/103 NOT IN DIRECTORY                RECORD NUMBER    2194
```

84. Missing a gamma spectrum for continuum of gammas
MAT=1228, MF=12, MT=103 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=103
        CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

85. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=12, MT=107 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=107
        SECTION 12/107 NOT IN DIRECTORY                RECORD NUMBER    2205
```

86. Missing a gamma spectrum for continuum of gammas
MAT=1228, MF=12, MT=107 (1): No gamma spectrum

```
    ERROR(S) FOUND IN MAT=1228, MF=12, MT=107
        CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

87. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=14, MT= 16 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=1228, MF=14, MT= 16
        SECTION 14/ 16 NOT IN DIRECTORY                RECORD NUMBER    2217
```

88. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=1228, MF=14, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 22
         SECTION 14/ 22 NOT IN DIRECTORY                    RECORD NUMBER    2219
```

89. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 28 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 28
         SECTION 14/ 28 NOT IN DIRECTORY                    RECORD NUMBER    2221
```

90. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 51 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 51
         SECTION 14/ 51 NOT IN DIRECTORY                    RECORD NUMBER    2223
```

91. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 52 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 52
         SECTION 14/ 52 NOT IN DIRECTORY                    RECORD NUMBER    2225
```

92. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 53 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 53
         SECTION 14/ 53 NOT IN DIRECTORY                    RECORD NUMBER    2227
```

93. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 54 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 54
         SECTION 14/ 54 NOT IN DIRECTORY                    RECORD NUMBER    2229
```

94. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 55 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 55
         SECTION 14/ 55 NOT IN DIRECTORY                    RECORD NUMBER    2231
```

95. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 56 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 56
         SECTION 14/ 56 NOT IN DIRECTORY                    RECORD NUMBER    2233
```

96. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 57 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 57
        SECTION 14/ 57 NOT IN DIRECTORY                    RECORD NUMBER    2235
```

97. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 58 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 58
        SECTION 14/ 58 NOT IN DIRECTORY                    RECORD NUMBER    2237
```

98. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 59 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 59
        SECTION 14/ 59 NOT IN DIRECTORY                    RECORD NUMBER    2239
```

99. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=1228, MF=14, MT= 60 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 60
        SECTION 14/ 60 NOT IN DIRECTORY                    RECORD NUMBER    2241
```

100. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 61 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 61
        SECTION 14/ 61 NOT IN DIRECTORY                    RECORD NUMBER    2243
```

101. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 62 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 62
        SECTION 14/ 62 NOT IN DIRECTORY                    RECORD NUMBER    2245
```

102. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 63 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 63
        SECTION 14/ 63 NOT IN DIRECTORY                    RECORD NUMBER    2247
```

103. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 64 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=14, MT= 64
        SECTION 14/ 64 NOT IN DIRECTORY                    RECORD NUMBER    2249
```

104. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 65 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT= 65
          SECTION 14/ 65 NOT IN DIRECTORY                    RECORD NUMBER    2251
```

105. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 66 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT= 66
          SECTION 14/ 66 NOT IN DIRECTORY                    RECORD NUMBER    2253
```

106. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 67 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT= 67
          SECTION 14/ 67 NOT IN DIRECTORY                    RECORD NUMBER    2255
```

107. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT= 91
          SECTION 14/ 91 NOT IN DIRECTORY                    RECORD NUMBER    2257
```

108. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT=102 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT=102
          SECTION 14/102 NOT IN DIRECTORY                    RECORD NUMBER    2259
```

109. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT=103 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT=103
          SECTION 14/103 NOT IN DIRECTORY                    RECORD NUMBER    2261
```

110. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=14, MT=107 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=14, MT=107
          SECTION 14/107 NOT IN DIRECTORY                    RECORD NUMBER    2263
```

111. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=15, MT= 16 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=1228, MF=15, MT= 16
          SECTION 15/ 16 NOT IN DIRECTORY                    RECORD NUMBER    2266
```

112. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=15, MT= 22 (0): Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT= 22
         SECTION 15/ 22 NOT IN DIRECTORY                  RECORD NUMBER    2387
```

113. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=15, MT= 28 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT= 28
         SECTION 15/ 28 NOT IN DIRECTORY                  RECORD NUMBER    2472
```

114. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=15, MT= 91 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT= 91
         SECTION 15/ 91 NOT IN DIRECTORY                  RECORD NUMBER    2535
```

115. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=15, MT=102 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT=102
         SECTION 15/102 NOT IN DIRECTORY                  RECORD NUMBER    2794
```

116. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=15, MT=103 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT=103
         SECTION 15/103 NOT IN DIRECTORY                  RECORD NUMBER    3399
```

117. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=15, MT=107 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=15, MT=107
         SECTION 15/107 NOT IN DIRECTORY                  RECORD NUMBER    3631
```

118. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=33, MT= 2 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=33, MT=  2
         SECTION 33/  2 NOT IN DIRECTORY                  RECORD NUMBER    3936
```

119. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=33, MT= 4 (0)$: Directory (b)

```
      ERROR(S) FOUND IN MAT=1228, MF=33, MT=  4
         SECTION 33/  4 NOT IN DIRECTORY                  RECORD NUMBER    3993
```

120. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=1228, MF=33, MT= 16 (0)$: Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=33, MT= 16
            SECTION 33/ 16 NOT IN DIRECTORY                    RECORD NUMBER    4040
```

121. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=1228, MF=33, MT=102 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=1228, MF=33, MT=102
            SECTION 33/102 NOT IN DIRECTORY                    RECORD NUMBER    4054
```

- `psyche` Warnings:

  1. Strength function in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 25. L = 0 / STRENGTH FUNCTION IS 1.16964E+01 / STRENGTH FUNCTION 1.16964E+01 / LIES OUTSIDE LIMITS 1.00000E-04 TO 9.00000E-04 (0): URR str. ftn.

     ```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  25. L =  0
                      STRENGTH FUNCTION IS  1.16964E+01
                                  STRENGTH FUNCTION 1.16964E+01
     ... [1 more lines]
     ```

  2. Strength function in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 25. L = 1 / STRENGTH FUNCTION IS 8.34902E-04 / STRENGTH FUNCTION 8.34902E-04 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

     ```
     FILE  2
        SECTION 151
            ISOTOPE MASS =  25. L =  1
                      STRENGTH FUNCTION IS  8.34902E-04
                                  STRENGTH FUNCTION 8.34902E-04
     ... [1 more lines]
     ```

  3. Non-threshold reaction with Q value differing from PSYCHE's expectations
     FILE 3 / SECTION 107 / THE CALCULATED Q 3.69071E+05 DISSAGREES WITH THE GIVEN Q 4.80349E+05 (0): Iffy Q

     ```
     FILE  3
        SECTION 107
              THE CALCULATED Q  3.69071E+05 DISSAGREES WITH THE GIVEN Q  4.80349E+05
     ```

- `recent` Warnings:

  1. Statistical weight of certain L values were incorrect
     0: RRR goof (a)

     ```
     Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
     ===============================================================================
     Retrieval Criteria-----------        MAT
     File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)
     Reactions with No Background-    Output (Resonance Contribution)
     ... [173 more lines]
     ```

- `fudge-4.0` Warnings:

  1. Missing a channel with a particular angular momenta combination
     resonances / resolved (Error # 1): missingResonanceChannel

     ```
     WARNING: Missing a channel with angular momenta combination L = 0, J = 1.0 and S = 1.0 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 0, J = 3.0 and S = 3.0 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 1.0 and S = 1.0 for "capture"
     WARNING: Missing a channel with angular momenta combination L = 1, J = 1.0 and S = 2.0 for "capture"
             ... plus 4 more instances of this message
     ```

  2. Potential scattering hasn't converted, you need more L's!
     resonances / resolved (Error # 2): potentialScatteringNotConverged

     ```
     WARNING: Potential scattering hasn't converged by L=1 at E=220000.0 eV, xs[1]/xs[0]=0.323076851842% > 0.1%
     ```

  3. Cross section does not match sum of linked reaction cross sections
     crossSectionSum label 0: total (Error # 0): CS Sum.

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.20%
     ```

  4. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 0 (n + Mg25): / Form 'eval': / Component 0 (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 0 (n + Mg25): / Form 'eval': / Component 1 (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 1 ((z,n)): / Form 'eval': (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 2 (n[multiplicity:'2'] + Mg24 + gamma): / Form 'eval': (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 3 (Mg26 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 3 (Mg26 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
          WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

- `fudge-4.0` Errors:

    1. The spin statistical weights are off, indicating missing channels
    resonances / resolved / MultiLevel_BreitWigner (Error # 0): badSpinStatisticalWeights

    ```
          WARNING: The spin statical weights for L=0 sums to 0.416666666667, but should sum to 1.0.  You have too few chan
          WARNING: The spin statical weights for L=1 sums to 1.0, but should sum to 3.0.  You have too few channels for re
    ```

- `njoy2012` Warnings:

    1. Evaluation has no unresolved resonance parameters given
    unresr...calculation of unresolved resonance cross sections (0): No URR

    ```
       ---message from unresr---mat 1228 has no unresolved parameters
                         copy as is to nout
    ```

    2. Evaluation has no unresolved resonance parameters given
    purr...probabalistic unresolved calculation (0): No URR

    ```
       ---message from purr---mat 1228 has no unresolved parameters
                         copy as is to nout
    ```

    3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully
    describe all the products of a nuclear reaction. Some carry-over evaluations from earlier
    ENDF/B versions also have this capability, but many do not. This message is intended
    to goad evaluators to improve things!
    groupr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

    ```
       ---message from conver---cannot do complete particle production for mt= 16
                         only mf4/mf5 provided
    ```

    4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully
    describe all the products of a nuclear reaction. Some carry-over evaluations from earlier
    ENDF/B versions also have this capability, but many do not. This message is intended
    to goad evaluators to improve things!
    groupr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

    ```
       ---message from conver---cannot do complete particle production for mt= 22
                         only mf4/mf5 provided
    ```

    5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully
    describe all the products of a nuclear reaction. Some carry-over evaluations from earlier
    ENDF/B versions also have this capability, but many do not. This message is intended
    to goad evaluators to improve things!
    groupr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

    ```
       ---message from conver---cannot do complete particle production for mt= 28
                         only mf4/mf5 provided
    ```

    6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully
    describe all the products of a nuclear reaction. Some carry-over evaluations from earlier
    ENDF/B versions also have this capability, but many do not. This message is intended
    to goad evaluators to improve things!
    groupr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

```
---message from conver---cannot do complete particle production for mt= 91
                          only mf4/mf5 provided
```

```
---message from conver---cannot do complete particle production for mt= 91
                          only mf4/mf5 provided
```